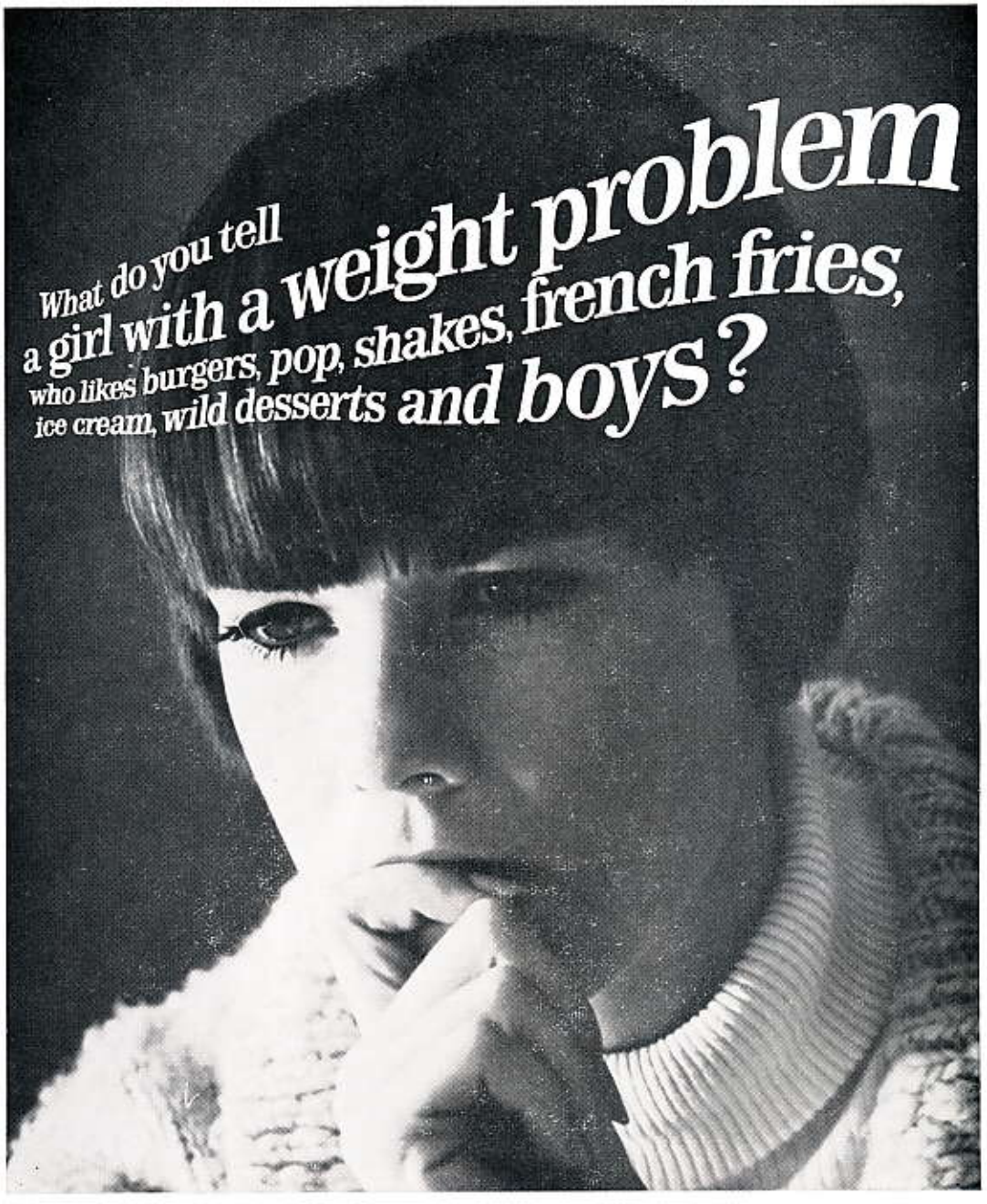
DECEMBER - 1967
VOLUME 18 - - No. 1

Canadian Home Economics JOURNAL

Published by CANADIAN HOME ECONOMICS ASSOCIATION



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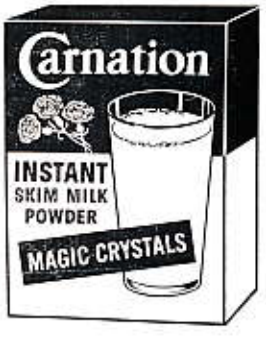

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CANADIAN HOME ECONOMICS

JOURNAL

December 1967 Volume 18, No. 1

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Subscription rates: $2.50 per year or 65 cents per single copy.

Application for membership in the Association should be sent to National Office. Membership fee is $15.00 due May 1st.

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Published Quarterly by
Canadian Home Economics Association

Printed by
The Public Press Limited, Winnipeg 21, Manitoba.

Authorized as second-class mail, Post Office Department, Ottawa, and for payment of postage in cash.

Legislative Building, Regina

—Saskatchewan Government Photo

Communications

With this issue we welcome a new staff to the C.H.E. Journal with Marjorie Elwood of Toronto as its editor. May they find this new responsibility in communications rewarding!

Webster defines communications as a way to get from one place to another. This is certainly true of this, our professional journal. This page is the President's only channel to all members. Do you read your journal? Do you use it as a source of information to reach home economists that are not members of the association? Do you let its articles inform your administrators and others outside of the association that Home Economics has developed wider interests than "cooking and sewing"? Do you write articles for the journal about your current research projects and developments that would up-date other home economists?

Is the C.H.E. Journal a sufficient communications media? Would you like to receive a newsletter with more personal notes and exchange of opinion than is possible in a professional journal?

This issue, too, marks the end of Centennial Year. The various centennial projects, topped no doubt by Expo 67, have made us all proud to be Canadians. Let us now turn to the International Year for Human Rights as a source of inspiration for 1968 Resolutions.

Warm Greetings to all,

Wanda Young

Vitamin and Food Toxicity

by George H. Beaton, Ph.D.

Department of Nutrition, School of Hygiene, University of Toronto.

"Food Toxicity" is a term which covers many aspects of a highly complex problem. Traditionally we have thought in terms of "food poisoning" in the sense of bacteriological contamination with consequent production of toxins or infection of the consumer. Today, however, we are aware of great expansion of meaning of the term. "Food toxicities" of non-microbiological origin are of greater potential danger than the traditional food poisoning in our developed society. We must also realize that in the older sense, food poisoning was usually an acute episode; today we must consider food toxicity in terms of chronic toxicity, of damage to organs such as the liver, of potential carcinogenesis and we must remember that there may be interactions between additives and other dietary constituents or influences of host factors.[1] We must also recognize that the numbers of chemicals that come in contact with our foods, all of them potentially toxic until proven otherwise, increases every month.

It is to this general problem that I will address my remarks, not as an expert, but rather as an interested and concerned scientist. I will, as the title implies, devote a little more attention to the problems associated with the addition of vitamins to foods or inclusion in medicinal preparations, but this will be done only as an example of the overall problem. Vitamin enrichment is only a small part of the problem and warrants separate attention only because vitamins added to foods or sold across the counter often have direct appeal to the consumer, and, in the case of foods, may often be added as a "sales gimmick" rather than for valid technological or public health purposes. For this reason, perhaps we in Public Health should have a particular interest and knowledge of their control.

The Food Chain and Food Toxicity

While the scientific community has been concerned with the problems and potential hazards associated with food production and processing for many decades, it seems valid to state that public concern was not strongly aroused until publication of "The Silent Spring" by Rachel Carson. This book, while not dealing primarily with potential human toxicity, made the public aware of the well known biological phenomenon, the food chain. Materials administered to one host can be transmitted by a chain of ingestion – being ingested to an entirely different host.

At the recent Nutrition Congress in Hamburg, Germany, Miettinen[2] described this phenomenon as it applied to the Lapps living in the Arctic and with reference to radionuclide fallout. Here one food chain began with the lichens which take all nutrients from the air and rain (and hence absorb the radionuclides). These lichens were consumed in great quantity by the reindeer which were in turn consumed by the Lapps. Other food chains began with plankton and then to fish and hence to man, or with water plants that were consumed by cows yielding milk for human consumption. These chains not only transmit the toxic compound, but, because of the large quantities eaten, may concentrate or enrich the hazardous material. The degree of enrichment will vary with the compound, depending on its rate of decay and metabolism (it may be cleared from the body without accumulating). Thus lead and strontium compounds concentrated in the bones of the reindeer, but, since these were not ingested by the Lapps, they presented little hazard (there is a potential problem in the production of bone meal). On the other hand, cesium, which is handled like potassium, passed along the chain and whole body counting of Lapps revealed total body burdens 30 to 50 times normal (though still not exceeding permissible limits).

Because of their radioactivity, it is possible to follow the radionuclides along the food chain and a vivid portrayal can be made. However, it is also recognized that

Presented at the spring workshop of the Associated Milk Foundations of Canada, Skyline Hotel, March 15.

a similar chain can exist for certain agricultural compounds. Fat-soluble insecticides applied to crops or buildings are ingested by animals and retained in the fat to be transmitted to man in milk and meat products. Usually when high levels of agricultural residues are found in foods, it can be attributed to failure of the producer to follow the manufacturer's directions with regard to the level or timing of application.[3,4] It is not yet certain how significant, if indeed at all significant, the smaller amounts of compounds such as DDT passing along the food chain may be in human health.[5] Of particular concern here are the levels that might be ingested by infants fed milk formulae; studies of DDT levels in human adipose tissue have been started in a number of centers. Much attention is being directed toward the design of effective control measures to keep the potential hazard check and the search for other, safer procedures to replace the usual insecticides and yet accomplish the same purpose.[6] It is certain that we cannot simply prohibit the use of insecticides for the resultant loss of crops would be too high a price, but we can attempt to stop their indiscriminate use.

Toxic Compounds of Biological Origin

In addition to these examples of toxic materials entering the unprocessed foods from man-made sources, we must also recognize that nature is not free of toxic materials. The example of bacterial toxins has already been mentioned. Currently much interest centers on the "mycotoxicoses."[7] There are many forms of toxins produced by mold growth but the most widely publicized in recent years has been "aflatoxin" produced by certain strains of *Aspergillus flavus*, a common storage mold. Following the discovery and characterization of this material it has been possible to design methods for the examination of peanuts and other foods for its presence.

Again, while it is well documented that this and other mycotoxicoses are important veterinary problems (the animal usually ingesting large quantities of the contaminated food) the significance in human health is still unestablished.

In other cases, natural constituents of the foods themselves have been shown to be detrimental to the health of animals (and of humans). As example[8] one can cite the "tryspin inhibition" and/or other factors present in unheated soybeans, the gosspol present in most strains of cottonseed (the content of the meal can be reduced by correct processing), an apparent vitamin B_6 inhibitor in linseed meal, the goitrogens present in members of the *Brassica* family, and the presence of toxic compounds in such human foods as cycad, a palm-like tree growing in tropical areas, the ackee aguie fruit of Jamaica, the poisonous mushrooms, and the cyanide-containing compounds in cassava. Many of these noxious agents can be removed by suitable processing or cooking methods; others can be avoided by careful selection of foods. While these compounds are known to be detrimental to the health of animals, and, in many cases, of humans, their significance in North America is minimal because these are uncommon foods here.

Chemicals Added During Processing

Of greatest concern on this continent is the safety of chemicals intentionally added to foods during storage or processing. These include mold inhibitors, bacteriostatic agents, flour bleaching and aging agents, emulsifiers, antioxidants, stabilizers, solvent residues, etc., added to confer certain processing advantages or increased shelf-life; the artificial (or natural) coloring, flavoring and sweetening agents added to increase consumer appeal; and the various nutrients added in the name of Public Health.

It is certainly beyond the scope of this brief paper to attempt to elaborate on these many types of compounds. It is sufficient to point out that only with the aid of first two groups of compounds have our many technological advances in the food industry been possible. We cannot possibly go back to the "natural foods" as the food faddists would have us do, without an appreciable increase in the cost of foods or very marked diminution in the variety of foods available. Certainly, the "convenience foods" so much in demand by the public would disappear from the market. We must also realize that the potential risk of contamination of biological origin must be weighed against the potential risk of chemical agents; thus the

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antibiotics provide extended shelf-life to fish that might otherwise be a source of "food poisoning."

The problem then revolves around the determination of potential toxicity and establishment of safe limits or preferably the substitution of non-toxic compounds for potentially toxic materials. Thus, over the past 10-15 years, the potentially carcinogenic coal tar dyes have been replaced with non-toxic food colors. When antibiotics were introduced, there was fear that they might give rise to resistant bacterial strains in the individuals repeatedly ingesting the foods; this fear was largely allayed by establishing maximum levels that would be associated with virtually complete destruction of the antibiotic during normal cooking procedures.[9] However, in this connection it is of interest to note that in penicillin-sensitive infants, the presence of penicillin in milk, derived from cows treated for mastitis still remains a problem; if, as directed, milk were discarded for a sufficient period after penicillin administration, there would be little or no penicillin present in milk reaching the public.

When one considers that there are literally thousands of compounds used in food processing, and that more are proposed each day, one realizes the difficulty of control measures. Under these conditions, the ideal situation would be to demand that all proposed food additives meet a double standard; (i) that they are completely safe at the proposed level of usage (and in the presence of other constituents of the human diet), and (ii) that their introduction would represent an advantage to the consumer (i.e., that there is not already an approved compound that will serve the same purposes equally well).

This has been the general policy of the Canadian Food and Drug Directorate, with the manufacturers having the onus to establish safety. However, this introduces the unanswered question of "how does one prove that a compound is safe?" What criteria should be employed in what animals, for how long and in how many generations? It is almost certain that almost every compound used in foods, including table salt, is detrimental to some animals if given long enough at high enough dosages. In the United States, a regulation was formulated which prohibited the introduction into foods of any compound that had ever been shown to be carcinogenic in any animal under any conditions by any route of administration. On the surface this seemed to be an excellent Public Health measure, but in fact its literal interpretation would have presented an impossible situation, since by suitable preconditioning of animals, many otherwise harmless compounds can be shown to be "carcinogenic."

A great deal of interpretative freedom, and public trust, must be left to the Food and Drug Directorate. It is obvious that there must be an appreciable body of expert knowledge in many fields within the Directorate to permit sound decisions; it is also obvious that the Directorate must conduct fundamental research programs and not simply examine the submissions of producers. There are many unanswered questions.[10] Toward this end the Canadian Food and Drug Directorate has been undergoing a reorganization to further emphasize its research programs and is currently recruiting additional staff.

Vitamin D. An Example of Nutrient Additive Problems

This necessity for interpretation of data can be well exemplified in connection with nutrient additives; chemicals added to the foods for the nominal purpose of increasing their nutritional value. (It should be noted that certain nutrients may be added for technological rather than nutritional reasons, e.g., ascorbic acid, in fruits and tocopherols in oils as antioxidants, nicotinic acid in meats as a color stabilizer, carotene in margarine as a coloring agent). Most of the vitamins, iron, calcium, and iodine have been added, at one time or another, to one or another food in the name of Public Health. If you include water as a food, then fluorine should be added to the list. Currently, in the United States, there is strong pressure for the addition of lysine to wheat.

Both the Food and Drug Directorate and the Canadian Council on Nutrition agree on the criteria that should be applied to the addition of nutrients to foods: (i) at the level of ingestion *in the total diet, and from all sources*, the nutrient should not be toxic,

(*Continued on page* 116)

The Same Subject Matter . . . *Two Approaches*

by Mrs. Eleanor Vaines
Assistant Professor, School of Home Economics
University of British Columbia

The Problem: To teach a class of home economics education majors Bloom's *Taxonomy of Educational Objectives*: Two Approaches.

The Situation and the Subject

There are 15 women in this class. Upon satisfactory completion of this year they will be certified for teaching home economics in the junior and secondary schools in the province. The course is Methods and Materials in Home Economics. The *Taxonomy of Educational Objectives* is being taught as a practical and philosophical basis for preparing objectives for classroom learning experiences.

Preceding the lesson on Bloom the students have discussed "Objectives." They come to this lesson with the understanding that an objective for a lesson plan should be a statement of behavior and content. Behavior has been described only in a general was as a phenomena that can be altered and evaluated. The content is the subject matter that will be presented in a particular lesson.

The burden of the lesson in question is to specifically define, if possible, what the educationalist means by "behavior" within the context of an objective for a lesson plan. It is, of course, a narrow view of this phenomena.

The subject matter, then, is *Taxonomy of Educational Objectives*, by Benjamin S. Bloom, Editor, Handbook I: Cognitive Domain. Briefly, Handbook I includes the organization of the levels of learning in the Cognitive domain. The hierarchy consists of the following levels of learning: 1.00 Knowledge; 2.00 Comprehension; 3.00 Application; 4.00 Analysis; 5.00 Synthesis; and 6.00 Evaluation.

This presentation will not deal with Handbook II that ranks the hierarchy of learning in the Affective Domain or a discussion of the Psycho-motor Domain which claims no Handbook at this writing. The student will be presented with an overview only of this theory of learning before the details of Handbook I are dealt with. The purposes of these Handbooks were to aid professional educators in matters relevant to specific teaching practices, curriculum, testing, and research problems.

Meet The Teachers

The premises on which we approach any learning experience is reflected in teaching practices. Is behavior or the philosophy on which the teacher bases her behavior more important?

Miss Ascott

Miss Ascott subscribes to the beliefs of "Idealism" in her educational practices. She believes that the learner is a microcosmic mind, a mind to be molded by the expert teacher (a possessor of all culture). To emulate the teacher is the main source of inspiration and motivation for learning.

She has some difficulty teaching in a School of Home Economics because she feels that the curriculum that should be stressed is the classics in history, literature, and the arts. Because Home Economics is an applied discipline and based on a synthesis of these root disciplines, she feels that these lasting Ideas of the classics should be absorbed through rigorous mental discipline, and the application and synthesis of these Ideas left to the student. It is not infrequently that Miss Ascott feels compelled to use examples from the root disciplines rather than to draw on traditional home economics subject matter.

In the classroom she relies on books, readings, and recitation of these basic Ideas. She believes that they are absorbed through drill and discussion and memorization as well as through lecturing to the students. The evaluation of her pupils' achievement is measured in terms of their approximation to the Ideal intellectual attainment and spiritual growth.

Miss Brush

Miss Brush believes in the Pragmatic approach to educational practices. She views

education as more than a social institution to prepare students for life in an adult society; it is effective only as a continuing process of applying intelligence to new experiences. Since man's experience is the basic reality of our world, it becomes the fundamental ground out of which learning must come. This means that the teacher must begin with real life experiences of the student which will eventually lead him to those studies he is ready for by reason of his felt needs. Therefore, the problem solving approach begins with the learner's need to understand some aspects of his experience, then to formulate a problem that comes from his own interests. It is in the experience of solving his problem that real learning takes place.

Miss Brush's whole curriculum is based on the problem solving approach. Her task is to engage the student's interest through planned experiences which will motivate her to formulate questions and problems that will result in significant learning. In order to carry out her plans she will gain much information, as well as skill in organizing and presenting her findings. The application of the scientific or pragmatic method to individual problems is usually called the *project method*. Dewey called it the psychological approach to learning. It is basically a philosophy of change.

Knowing is derived from experiencing. Experiencing is a sequence of subjective stimuli. Knowledge is derived from these experiences. Experiencing is a stream of relationships, then, that precedes knowing.

Experience and knowing are derived from inception (undifferentiated stage) to cognition (knowing) in the problem solving schema. What works determines what knowledge is in a particular situation. Knowledge, then, is the product of an experience and Truth is dependent on how thoroughly and systematically it is tested. Truth is dependent upon the degree of testing between truth and knowledge. Truth is never an absolute but it is always changing. It is relative to public testing and it is objective. It is not what *works*, but *what* works.

The Subject Matter as Presented by Miss Ascott

Miss Ascott thoroughly enjoys teaching Bloom's *Taxonomy* because it is clear cut and well defined. At last this area has been elucidated in an organized way. The content can be emphasized as it should be. It is all there in the book, defined and with concrete examples to illustrate each level of the hierarchy.

She believes that the best approach is to tell the students that the *Taxonomy* is like a map. This is to help them connect an abstract organization to a less abstract application. And she has prepared a skeleton outline on a chart to aid her in her explanation. This method seems best for presenting this important content.

Miss Ascott was urged last term by a colleague to use more examples from home economics subject matter but she feels that providing such a transfer is not her job. It is up to the students to relate the ideas on their own. Besides, the mathematical examples included in the Handbook are of the highest quality. After all, it is most important that the very best ideas and examples be presented to the students.

Most of her presentation will be by lecture except for the aforementioned chart. This will take about half of the period and the remainder of the time she plans to have the students memorize the levels of learning and practise some examples of objectives for each level.

She will feel that she has succeeded if the students do well on a pop quiz that she will give at the beginning of the period tomorrow.

The Subject Matter as Presented by Miss Brush

Miss Brush does not completely accept Bloom's theory of learning as a neat hierarchy. Since she relies mostly on problem solving for the students to discover knowledge for themselves, she feels this approach will be especially enlightening for this controversial subject matter. In yesterday's lesson she felt that she helped the students reach a point where *they* felt a need to know more about defining what is meant by "behavior" for classroom lesson plan objectives.

She has decided to begin the lesson by giving a synopsis of Handbook I as *one* approach to defining cognitive behavior.

(*Continued on page* 120)

The Product Patrol*

by E. Margaret Pope
Consumer Consultant, Food and Drug Directorate, Toronto

Since I am here representing the Food and Drug Directorate, I would like to begin by briefly outlining our product patrol work for those who might be hazy about our activities. I propose to talk in particular about foods manufactured for special dietary use and the philosophy behind the government regulations controlling them.

Function of FDD

Our work in FDD is based on the time honored principles of health and honesty and our activities are geared towards protecting the public from fraud and deception when they buy food, drugs, cosmetics and medical devices.

It's interesting to note the principles of health and honesty were approved and recorded in the ancient Hittite culture some 3,500 years ago. An inscription discovered on a stone from those early times has been translated and might be expressed like this:

"Thou shalt not poison thy neighbor's fat!"
"Thou shalt not bewitch thy neighbor's fat!"

These two admonitions have been interpreted to mean first, only safe and wholesome food should be sold and, secondly, the person selling the food should not misguide the buyer or outwit him. All through history then, efforts have been made to protect the public's health and we are still at it. It goes without saying that in 1967 our Food and Drug Regulations are more sophisticated and far-reaching than those early laws.

Keeping an eye on the flood of new foods, drugs and cosmetics which continue to pour onto the market is quite a job. FDD is concerned with the safety of these products and in foods, the safety of such components as flavors, colors, stabilizers, preservatives and added nutrients.

To get an inkling of the scope of the work of our product patrol, conjure up a picture of all the different foods sold in your supermarket and let your mind's eye scan the array of cosmetics and drugs in your drug store. In all probability, at some time or other one of our Food and Drug Inspectors has not only checked the plant where each product was made or store where it is sold, but he has also read all the fine print on all those different labels. Also, in the FDD laboratories, our analysts uncover those things that don't even meet the naked eye — the presence of the ubiquitous bug salmonella, the soupçon of pesticide residue.

It is the responsibility of the manufacturer, the importer and the distributor to ensure that the goods they offer for sale in Canada meet our FDD requirements. We do not test or especially approve every one of these products sold in Canada. There is no nod of approval for those who abide by the letter of the law — the good guys — but there are penalties for those who do not! The Food and Drug Act, which is an act of criminal law, provides the authority under which the product patrol operates. There are specific requirements in the Regulations which accompany the Act. These are the standards we expect the food manufacturers to meet. The product patrol checks foods to see they meet these requirements and when necessary takes appropriate action.

Both the inspector and the laboratory analyst play an important part in our patrol work. A food plant inspector, for example, is as interested in the cleaning solutions used to flush out processing systems as he is in the details given on the label of the finished product. He wants to be sure the chemical cleaner leaves no harmful residue in the pipes. He also wants to know if the list of ingredients on the label is complete. He is as interested in plant sanitation as in quality control measures. It's customary for our inspectors to bring back samples to be analyzed in our laboratories. In Toronto we have five — Vitamin, Food, Bacteriology, Pesticide and a Drug Laboratory. What do our scientists find? It might be pesticide in an imported

*Presented at Dietetic Day of the Ontario Hospital Association Convention, Royal York Hotel, Toronto, October 24, 1967.

cheese and such cheese would be refused entry into the country. The bacteriology lab might turn up a high coliform count on a soup base, or the vitamin lab a fruit drink much lower in vitamin C potency than claimed on the label. These are random examples from a day's investigation. To give you an idea of the volume of work this surveillance entails in Ontario, the Toronto office last May, one unit (importations), screened more than 2,000 entries and of these 251 foods were sent along to the laboratory for examination. Twenty-four of the imported foods were allowed conditional entry. For the most part, these conditional products did not meet our labeling requirements. We tend to be lenient the first time and allow them in, provided the next shipment carries corrected labels. May I point out it's the importer's responsibility to make sure the goods he brings in meet the Canadian standards. We expect the same of him as we do of our domestic manufacturers.

Our patrol work is national in scope. Besides the Ottawa headquarters, we have five regional offices across Canada; in Vancouver, Winnipeg, Toronto, Montreal and Halifax. Our Toronto office is the largest of the regional departments and our staff here numbers around 110. There are, in addition, 23 district offices dotted across the country from St. John's, Newfoundland, to Victoria, B.C.

Philosophy of Regulations

And now a word about the philosophy of regulations. They are the "tools" if you like, which the government uses to get manufacturers to comply. I came across a rather simple description of regulations given by Dr. Spolyar of the Michigan State Bureau of Preventive Medicine. He defined a regulation as a "calculated compromise between the ideal and what is reasonable, yet designed to provide reasonable comfort and reasonable security." This appeals to me because it suggests there are at least two sides to the agreement. This is the way it has to be if regulations are going to work. In fact, the protection is better when there is good liaison between government and industry. And we do our best to keep an open door policy, for the standards the government sets must be acceptable both to industry and to the government scientists and must additionally take into account consumer preferences.

No matter how much one might like to adopt the scientific ideal, there are invariably limiting factors which necessitate a more pragmatic approach — hence the "calculated compromise." And for practical purposes, these regulations become the acceptable standards, subject, of course, to revision from time to time to keep in step with technological change.

Dietetic Foods

Although FDD Regulations are designed to be specific and precise, the terminology can be confusing and consumers have been known to complain that it is not always easy to interpret the information that the law specifies must be on a package. Actually, our agency is especially concerned about the labeling of foods manufactured for a special dietary purpose.

We're nearly all weight watchers so today diet foods are going like hot cakes, especially diet soft drinks. According to DBS, the yearly trend in diet drinks has indicated an increase of 10% a year the last 3 years. Both manufacturers and consumers are anxious to get on the diet bandwagon. It is up to the FDD to see that these special diet foods serve a sound nutritional purpose and that proper information is provided on the labels to guide shoppers while selecting them. Many people buy diet foods unnecessarily. This is an area where enlightened nutrition guidance is needed. Even making the public aware that foods sold for a dietary purpose must carry pertinent information is a step in the right direction. Since most diet foods cost more than the regular food, it seems reasonable to encourage a consumer to take time to study the label just to make sure it's what she really wants before she makes her choice. Any food manufactured or prepared for a special dietary purpose is clearly labeled as a "dietetic" or "diet" food. When you see that the label specifies it is a diet food, you know the product is one which has been specially modified to have either more of or less of certain constituents. Under our present regulations, there are only four categories of these special "dietetic" products. They can be recognized by glancing at the label.

The four categories of foods are those recommended for:

1. calorie restricted or calorie reduced diets.
2. sugar restricted or carbohydrate restricted or starch restricted or reduced diets.
3. sodium restricted or low sodium diets.
4. Increased protein or high protein diets.

When a food is billed as a "dietetic" or "diet" food, the label or the ad must also state the type of diet or diets for which the manufacturer recommends that particular food.

Our regulations specify certain requirements for each of these four diets. For instance, when you see a food advertised as "recommended for a calorie-reduced diet," it is one which has been significantly reduced in calories compared to its normal counterpart. We consider a reduction of 50% significant. Any food carrying a "diet food" handle must not contain more than 50% of the total calories normally present in that type of food, except that bakery products are only limited to 75% of the total calories to meet the calorie reduced claim. Whenever the package carries a claim regarding the caloric content, the label or ad should state the calorie content in calories per 100 grams — that is the standard form of expression.

However, a "diet spread" product labeled "calorie reduced" might declare 9 calories per tablespoon or 3 calories per teaspoon, as well as the mandatory 80 calories per 100 grams. Because regular jam is not modified, it's not necessary for the manufacturer to make any calorie declaration. As you know, the energy value of regular jam is about 56 calories per tablespoon so the diet spread more than meets the 50% qualification — the calories are roughly 85% less.

In addition to the mandatory so many calories per 100 grams statement, the manufacturer may also give the calories per serving. On the other hand, an expression of the quantity of calories *per 100 grams*, or so-many milligrams of sodium *per 100 grams*, are the standard and mandatory ways of making dietetic declarations. We can only hope that as the trend towards a greater use of these products increases, the public will begin to grasp this wording, for these standard methods of expression are not likely to change.

So much for calorie-restricted diets. Where a label declares that a food is carbohydrate-reduced, the regulations specify that it must not contain more than 50% of the glycogenic carbohydrates normally present. The exception is confectionery and pudding powders which are limited to only 70% of the glycogenic carbohydrates normally present. Currently there is a bit of a paradox here regarding a glycogenic carbohydrate which leaves the poor diabetic mightily perplexed. In calculating the carbohydrate exchange values, the hexitols or sugar alcohols, such as mannitol and sorbitol, are not considered by FDD as glycogenic carbohydrates. Because of their slow absorption rate, it is felt these sugar-alcohols do not put any acute strain on the pancreas as regular carbohydrates do. This is in line with the thinking of the British Food Standards Committee and the World Health Organization, but, alas! not with the Canadian Diabetic Association which advises its members to make a suitable compensation when using foods made with sorbitol or mannitol. In other words, to count in the full carbohydrate exchange value. When this confusion will be resolved I cannot say — certainly not as long as the FDD and the Diabetic Association hold opposite views. According to a spokesman for CDA this matter is now under review by their medical board, so perhaps some agreement is in the wind.

Incidentally, these sugar-alcohols are not as sweet as sugar — about 60% as sweet as sucrose. However, sorbitol is equal in calories, while mannitol has a food caloric value half that, i.e., 2 calories per gram. So, as you can see, a carbohydrate-reduced or sugar-reduced chocolate flavored bar might possibly have just about as many calories as ordinary chocolate when sorbitol has been used in its manufacture. And although the label on the diabetic chocolate bar clearly states it is for *carbohydrate-reduced diets* you would be surprised at the number of people who buy dietetic candy bars made for sugar restricted diets and take it for granted that the special diet chocolate bar contains fewer calories! Perhaps attention

should be drawn to the fact that a 100 gram bar of diet chocolate with almonds has a calorie value of 509, which does not compare too favorably with 100 grams of milk chocolate with almonds at 532 calories if one is choosing the special bar in order to drastically lower calories rather than carbohydrates and at a price about double ordinary chocolate!

Low Calorie Foods

As for low calorie foods, artificial or synthetic sweeteners are used to lower the energy value and to modify a tremendous number of foods popular for those on reducing diets. Foods, such as canned fruits, pudding and gelatin desserts, frozen desserts, jellies and jams and baked goods, and low calorie soft drinks. With few exceptions, these synthetic sweeteners may only be used in diet foods, and where they are used, of course, the label clearly states their presence. That is, FDD does not permit the use of artificial sweeteners in foods other than those classified as special dietfoods. The exception that proves the rule is the use of minute quantities of calcium cyclamate in ice cream cones and ice wafer biscuits.

You will notice that whenever an artificial sweetener is used in a diet food, the label will read "contains sodium cyclamate/or calcium cyclamate/or saccharin, a nonnutritive artificial sweetener." Incidentally, to be touted as "low calorie" the food must not have a calorie value higher than 15 calories per average serving, nor more than 30 calories in a reasonable daily intake.

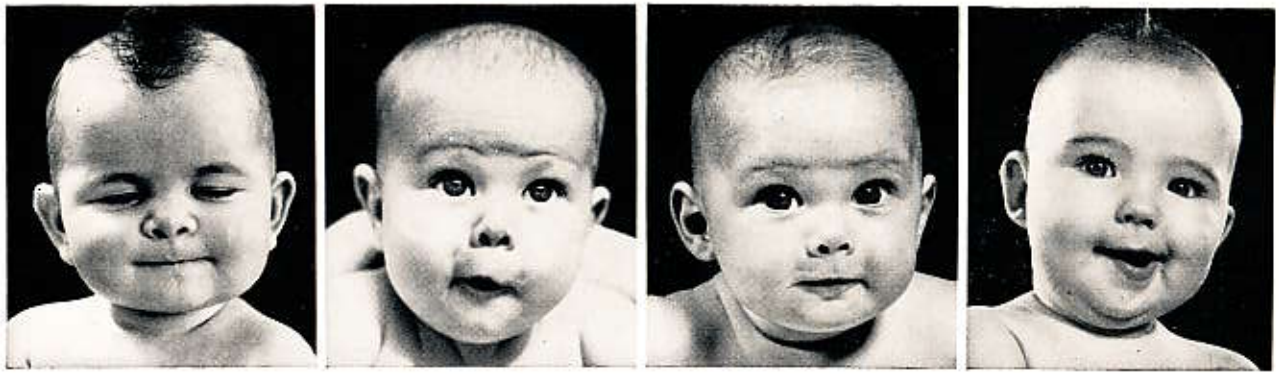
Sodium Restricted Foods

As you'd expect, a food recommended as "sodium restricted" must have the percentage of sodium significantly reduced. At first glance the wording of this regulation might seem confusing. It states that the sodium should not exceed one-sixth the number of calories in a reasonable daily intake. The mechanics of this calculation are quite simple. An R.D.I. of calories is taken as 3,000 and the sodium is limited in a sodium restricted diet to 500 mg., which is 500 ÷ 3,000 or one-sixth. That is how it's worked out; however, the statement on the label need only declare the number of milligrams of sodium per 100 grams of the food.

The requirement that the number of milligrams of sodium in a sodium restricted food should not be more than a sixth the number of calories in the same amount of that product is a relatively new regulation. And six months ago, as part of our patrol system, our analysts surveyed 40 dietary foods sold on the local market to see how the diet food manufacturers were doing with these sodium limits. This survey included salt substitutes, dietetic candies, vegetables, soup, bread and cheese. The results were very revealing! Of the 40 samples surveyed, some 16 samples (or 40%) were found to be unsatisfactory. That is, the foods contained a higher sodium content than specified on the label. Three of these products had a sodium content 50% higher than the label declaration. I assure you that these transgressions have been brought to the attention of the manufacturers and other departments concerned and further checks will continue till we are satisfied the manufacturers are complying. One of the complications in this business of policing the food industry is that Food and Drug shares responsibilities with the Department of Fisheries and Agriculture so that products like dietetic salmon and tuna are subject to their Fish and Shellfish Regulations, while fruit and vegetable products recommended for special dietary purposes and normally made without added salt or sugar are subject to the Processed Fruit and Vegetable Regulations. However, when a dietetic fruit or vegetable product contains a synthetic sweetener, it comes under our regulations. As you know, the more people there are involved, the longer it takes to get things done. Meanwhile, we are keeping a sharp eye on these low sodium diet foods.

Incidentally, a manufacturer is not allowed to make claims such as "salt free" or "saltless" unless the food actually does not contain any sodium salts. On the other hand, a manufacturer may declare a product has been "made without salt" or "no salt added" if sodium chloride salt is usually added to similar products but not used in making the special one; for example, "low sodium" bread. By the way, under our regulations, a food may be described as "low sodium" as long as it does not contain

(*Continued on page* 118)



Three thousand years of testing by a highly qualified panel of experts endorses the value of sugar in baby formulae

It's a controllable weight-builder and energy source. It's easily digested, inexpensive, pure, readily available and easy to use. In reasonable quantities it is good for babies.

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Canadian Sugar Institute
408 Canada Cement Building, Phillips Square, Montreal, P.Q.

Graduate Work . . . *What? Where?*

The second in a series of three articles prepared by
CHARLOTTE BLACK, *Education Committee Chairman.*

All students are not interested in the same line of study. During undergraduate years the interest of the student may change from year to year or even term to term as new subjects and faculty members are encountered. The senior year may show that what has appeared to be a hodge-podge of courses, has now formed a pattern and there is a degree of assurance as to where the student's greatest interest lies. Experience may confirm this major interest. By the end of two or more years of professional experience one's ideas are clarified and a better choice can be made as to a new position, a promotion or, perhaps, further study.

It must be realized that graduate study is not "more of the same." It is usual to have related areas of study—one primary, the other secondary—for example: Foods and Nutrition; Child Development and Nutrition; Textiles and Retailing; Clothing and Design or Psychology; Foods and Food Administration; Family Finance and Sociology; Housing and Community Planning, to name a few. There are many decisions to be made by the prospective graduate student, which require serious consideration and consultation. Course work and research may be open or required in two schools or faculties as Home Economics and Social Work or Social Sciences, Art and Architecture, Medicine, Sciences as Chemistry, Physics, Micro-biology and Zoology, Commerce, Education and Agriculture. Or work may be entirely in another faculty. It is true that programs of study are prescribed by most institutions but there is

University	Degree Offered	Time Required
University of Toronto Faculty of Food Science	M.Sc. Nutrition, Foods	2 years
McGill University Macdonald College	M.Sc. Nutrition	2 years
	Ph.D. Nutrition	2 - 3 years beyond M.Sc.
College of Education	M.Ed.	
University of Montreal Institute of Dietetics and Nutrition	M.Sc. Nutrition	2 years
University of Manitoba School of Home Economics	M.Sc. Foods and Nutrition, Clothing and Textiles, Home and Family Living	2 years
University of Alberta School of Household Economics	M.Sc. Nutrition	2 years
University of Guelph Macdonald Institute	M.Sc. Foods Research, Textile Physics, Food Administration and Nutrition, Home and Family Management Principles, Clothing, Textile Chemistry	2 years
	Ph. D as above	
University of Saskatchewan College of Home Economics	M.Sc. Nutrition	2 years
Laval University School of Home Economics	M.Sc. in conjunction with Agriculture	2 years

Plans underway for introduction of programs in the foreseeable future: Mount St. Vincent University, Halifax, N.S.; Mount St. Bernard College, Antigonish, N.S.; University of British Columbia, School of Home Economics, Vancouver, B.C.

flexibility which allows for a student's particular interests, needs and background.

In reaching a decision, individual correspondence with more than one school is necessary and should be done early in the academic year as selection of graduate students usually takes place early in the spring term. Correspondence means that both sides provide information. The enquirer should state her interest, experience and scholastic standing in her first letter in order to receive more than the bare bones of courses available. A transcript and letters of reference will be required later. Always remember that a letter serves as an introduction of the writer.

It may be correctly said that the opportunities for study in any area are limitless if one is ready to go far afield. The following table gives the Canadian Universities in which graduate programs are at present established as of the spring of 1967—all have plans for expansion.

The years spent in graduate study are not money making years. Stipends for assistantships are generally available, also research grants, arranged by Universities, from the National Research Council and industry. Bursaries and scholarships are of great assistance. Those home economists who are not in a position to undertake graduate studies should realize that contributions to Scholarship Funds are contributions toward the growth of the profession. Most provinces and our own Canadian Home Economics Association have just such a fund.

Those who are in a position to go outside of Canada may choose to follow the footsteps of others to Queen Elizabeth College, University of London, the London School of Economics or the University of Aberdeen. For opportunities in the United States, consult the February issue of the Journal of Home Economics in even years—1966 the most recent—in which a full tabulation is given. It should be noted that the April issues carry Summer School offerings.

Ask yourself—what is my ambition? Am I making definite progress toward its achievement? Another question to ask is—Why are the opportunities for graduate study in Home Economics so limited in Canada? One of several answers is that so few graduates have proceeded to specialization that it is impossible to provide the necessary number of qualified faculty for all of our universities. Here is a wonderful field open to ambitious Home Economists.

Meeting Dates

So that "traveling" home economists would know the date of the monthly meeting of the different home economics associations across the country, we asked the president of each association to send us this information. The response, which was only 50%, is shown here.

ALBERTA H.E.A.—one meeting and a convention annually. Convention dates — April 18-20, 1968, Palliser Hotel, Calgary. Secretary — Mrs. J. R. Lawrence, 424 Superior Ave. S.W., Calgary, Alta.

CALGARY H.E.A.—meetings on 3rd Tuesday of each month, September to April. President — Mrs. Arlene T. Smith, 26 Southampton Dr. S.W., Calgary, Alta.

EDMONTON H.E.A.—meetings on 4th Monday of each month. Contact: Mrs. Joan Kucharski, 4519-107th Ave., Edmonton, Alta. 466-4472.

FREDERICTON H.E.C.—meetings on last Tuesday of each month, September to May. President — Mrs. Marie Starr, 299 Oxford St. 454-2726.

GUELPH—The President, Marjorie Harris, wrote to say that The Home Economics Section of O.A.C. will report later concerning their programs and happenings.

LONDON H.E.A.—meetings: January 16, February 20, April 16 and May 21. Secretary, Mrs. Julia Faust, 1150 Adelaide St. N., London, Ont., Apt. 502.

MANITOBA H.E.A.—meetings 4th Tuesday of each month from September through April (except December). President — Mrs. Ruth Hallonquist, 31 Henday Bay, Winnipeg 22, 837-2902.

NOVA SCOTIA H.E.A.—annual convention already held October 13 and 14 in Wolfville, N.S. Next fall the convention will be an "Atlantic Conference" in Moncton, possibly the 3rd weekend in October. Secretary — Mrs. Florence Purves, 31 Acadia St., Wolfville, N.S.

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Who's Who in Home Economics

Marjorie Lois Taylor (Mrs. A. E.)
B.H.Sc., B.Ed.

Marjorie Taylor (née Pain), has been an active member of the Canadian Home Economics Association since 1941. At present she is representing British Columbia as a Director of our Association.

Born in Prud'homme, Saskatchewan she attended rural and village schools in this province, then at the University of Saskatchewan she obtained a Bachelor of Household Science degree and a Certificate in Education. Later she received a Bachelor of Education from the University of British Columbia followed by additional courses at the Universities of Washington and Oregon State.

Mrs. Taylor has taught Home Economics successfully in Junior and Senior High Schools of British Columbia. At present she is teaching in Burnaby, B.C., taking an active part in local and provincial associations. She is Past President of the British Columbia Teachers of Home Economics Specialist Association; Vancouver and District Home Economics Association; and the Burnaby Home Economics Teachers' Association.

Marjorie Taylor is very much interested in the University Women's Club and she has held various offices in it. She has served as a member of the Curriculum and Book Committee of the B.C.T.F.

Our B.C. Director, from her broad experience in professional associations is fully convinced that, "responsible membership in our Canadian Home Economics Association is vital to its strength and growth." She sees the importance also, "for the trained Home Economist to use her abilities, willingly and effectively to aid the families in her community, province and nation. This responsibility," she states, "should not become overshadowed by the personal responsibilities of family or job."

Mrs. Taylor, in her leisure moments, enjoys gardening, arranging flowers, interior decorating, camping, golf, and the theatre.

Sylvia Matheson (Mrs. D. M.)
B.Sc.(Home Economics)

The Canadian Home Economics Association Director for Prince Edward Island, Mrs. Donald Matheson (née Taylor), was born in Charlottetown, Prince Edward Island. After completing a primary and a secondary school education, as well as two years at Prince of Wales College, in this province, Sylvia Matheson attended Mount Allison University where she received a Bachelor of Science degree in Home Economics.

Interest in teaching, as well as in her native province, took her back to Prince Edward Island to become Head of the Home Economics Department of the Queen Charlotte Junior High School. After three years in this position she was invited to set up the Home Economics Department of the Charlottetown Rural High School. She is presently a member of the staff of Prince of Wales College.

Mrs. Matheson is very much interested in, "promoting Home Economics Education and its image across the country." She believes that this will help to strengthen the family group. It is not surprising then that she is an enthusiatic liaison officer for Prince Edward Island in the National Home Economics Association, and also President of the Prince Edward Island Home Economics Association. Thus Mrs. Matheson has a wonderful opportunity to give strong leadership to her profession, both at the national and at the provincial level.

When not involved in professional matters, Mrs. Matheson enjoys dressmaking, needlework, gardening, and experimental cookery.

Boundless Energy—People with boundless energy are considered mortals apart. However, normal healthy people of similar build have much the same capacity for work — it is only the inclination to use this capacity that varies (Basic Biochemistry, Neil, section on bioenergetics p. 56).

Regina Hosting Convention

All home economists' paths should lead to the Saskatchewan Hotel in Regina for the 1968 C.H.E.A. Convention. The pre-convention course on Modern Communications in Home Economics (of special interest to teachers) will be June 27-28-29 (in Saskatoon) and the convention itself July 1-2-3 in Regina.

These are your convention chairmen:

SECRETARY:	Miss Marietta Harrison, Box 2002, Federated Co-op Ltd., Regina
TREASURER:	Mrs. Lois Steen, 91 Lockwood Rd., Regina
PROGRAM:	Miss Diane Craig, Home Planning Consultant, Yorkton Co-operative Assoc. Ltd., Yorkton *and* Miss Dorthea Tripp, Dietitian, Yorkton Hospital, Yorkton
EXHIBITS:	Mrs. Elaine Adams, 4507 Sherwood Dr., Regina
HOSPITALITY:	Mrs. Alice Jenner, Nutritionist, Dept. of Health, Health and Welfare Bldg., Regina
PUBLICITY:	Miss Jean Jamieson, District Home Economist, Land Titles Bldg., Prince Albert
ACCOMMODATIONS:	Mrs. Nota Solomos, 4212 Regina Ave., Regina
TRIPS AND TOURS:	Mrs. Diana Urquhart, 34 Motherwell Cresc., Regina
C.H.E.A. PRESIDENT:	Miss Wanda Young, 16 Cornwall Court, Regina
CHAIRMAN OF CONVENTION:	Mrs. Lillian McConnell, 109 Ellison Cresc., Regina
PRE-CONFERENCE COURSE:	Dr. Edith C. Rowles-Simpson, College of Home Economics, University of Saskatchewan, Saskatoon

Why Home Economics?

Dr. Lewis Lloyd, newly appointed director of the School of Home Economics, University of Manitoba, was guest speaker at the October meeting of the Manitoba Home Economics Association. On the topic "Why Home Economics?", Dr. Lloyd posed questions he felt home economists should ask themselves. Why is the profession called Home Economics? Is this the right terminology? Why did you, as a graduate, enroll in home economics? Why are you a home economist? Do you believe home economics has something unique to offer now and in the future? What does home economics really mean to you, to me? More important, what does home economics mean to the general public? Is the name a misnomer, or does it adequately describe the profession to the general public? Dr. Lloyd answered this last question: "It does not, I think you must agree."

The home economist, continued Dr. Lloyd, makes her influence felt far outside the home and works in many disciplines other than economics. This raises another question. If this is such a wide field, what makes home economics distinctive as a profession? Isn't it just a collection of disciplines? That cannot be so, according to Dr. Lloyd, or home economics would never have survived on university campuses, pushed as they are for space and money. **Editor's Note:** this is merely a teaser. A full report of Dr. Lloyd's talk will be in the next Journal.

Le développement des Aliments spatiaux et l'Aspect Nutritif de l'Alimentation spatiale

par PAUL A. LACHANCE, *Ph.D.*

Monsieur Paul A. Lachance, Ph.D., travaille présentement au Bureau des recherches bio-médicales pour le compte de la N.A.S.A., Houston, Texas. Il est responsable des programmes de recherches afin d'établir les critères d'une nutrition adéquate en vue du maintien de la vie lors des voyages dans l'espace.

La création et la préparation d'aliments propres à être consommés lors des envolées spatiales demandent des considérations techniques spéciales. La provision d'aliments destinés aux astronautes doit se conformer aux restrictions en poids et volume et pouvoir subir des stress transitoires mécaniques et techniques intensifs. Les aliments "spatiaux" doivent en outre répondre à des exigences calorifiques prescrites, être bas en résidus, éviter la formation de gaz intestinaux, être protégés de toute détérioration chimique et biologique et répondre à des spécifications physiologiques et nutritives qui augmentent en rigueur avec la durée des envolées.

Vols "Gemini"

Cinquante pour cent des menus sont faits d'aliments réhydratables (aliments qui demandent une addition d'eau avant d'être ingérés); l'autre 50% consiste en bouchées qui seront réhydratées dans la bouche. La moitié de ces produits sont des produits congelés-déshydratés (freeze-dried); le reste consiste en d'autres genres de produits séchés, en aliments pauvres en eau et/ou en produits comprimés.

La distribution calorifique des menus est la suivante: 17% en protéines, 32% en lipides et 51% en glucides. L'apport calorifique journalier varie selon les envolées dépendant de l'espace allouée pour les aliments.

Jusqu'ici une perte de poids a été enregistrée lors de chacun des vols; il y aurait aussi évidence de déminéralisation des os et possibilité de balance en azote négative.

L'énergie et les aliments consommés durant Gemini IV (4 jours) et VII (14 jours) furent adéquats mais en-dessous des normes recommandées (pour le maintien du poids du corps). Lors de l'envolée Gemini V (8 jours) la consommation d'aliments fut nettement inférieure à celle des vols Gemini IV et VII durant lesquels la provision de nourriture avait été presqu'épuisée. Les données pour les autres envolées ne sont pas encore disponibles.

Les renseignements obtenus à date sur le métabolisme des os et des muscles lors des vols spatiaux sont encore limités.

Dans tous les cas les observations faites sur les os au moyen d'un densimètre, avant et après les envolées, sont notoires. Les changements notés ne sont pas pathologiques; mais indiquent clairement le besoin de recherches plus poussées et la nécessité de trouver de meilleures méthodes applicables aux envolées de longue durée.

Sommaire de la conférence donné par le Dr. Paul A. Lachance, lors du 32e congrès annuel de l'Association canadienne des diététistes, tenu à Montréal du 12 au 15 juin 1967.

MEETING DATES

(*Continued from page* 103)

OTTAWA H.E.A.—meetings 3rd Monday of each month, September through May (no December meeting). Contact: President — Mrs. Elizabeth Larmond, Food Research Institute, Department of Agriculture, Central Experimental Farm, Ottawa. 994-9318.

SASKATOON H.E.A.—meetings 4th Wednesday of each month, September through May. Contact: President — Mrs. Margaret Little, at 374-0450 or the secretary, Miss Gwen Daley, 1311 Temperance St., Saskatoon, Sask.

SASKATCHEWAN H.E.A.—1968 Conference April 19 and 20 in Saskatoon. For further information contact Mrs. Anne Colley, Extension Division, University of Saskatchewan, 242-7671, Extension 577.

A Cross-Cultural Analysis of the Concept of Money Management

by EDITH E. DOWN, *Ph.D.*

The author is a graduate of the University of Seattle with a B.A. and a B.Sc. She received her Master's Degree from the University of British Columbia and was graduated in 1965 with a Ph.D. from Cornell University, Ithaca, N.Y. A native of Victoria, B.C., and a member of the Congregation of the Sisters of Saint Ann, she is presently a member of the faculty of Household Economics at the University of Alberta.

Educators today are interested in ascertaining student's needs which are important to meet the challenge of our complex society. Consumer behavior, of which teenage spending is a part, has been one area of study. Another has been the problem of integration of students of various ethnic and racial backgrounds. The present study has attempted to investigate teenage money management patterns in a cross-cultural setting with Canadian white and Indian students at the grade 9 and 10 levels. The problem is limited to discovering the awareness of money management practices and patterns among this specific population.

The data were collected in four integrated and two non-integrated schools in Lachine, Quebec, Manitoulin Island in Ontario and in Prince George and Kamloops in British Columbia. The study was carried out in December 1964, and January 1965. The schools chosen had a representation of 177 Indian students out of a total population of 471. To obtain a more specific concept of the Canadian Indian, these schools also represented a cross-section of various tribes.

A structured questionnaire administered to all students showed that Indian boys and girls were older than white students in grades 9 and 10. Intelligence quotient scores demonstrated that Indian students in integrated schools had higher scores than those in non-integrated schools. Indian students lived generally on reservations while the white students tested lived in cities. Education of Indian parents was limited and the occupation of fathers usually fell in the lower categories of employment.

Money management awareness was determined by tabulation of percentages on a series of items classified under the following headings: (1) Attitude toward working for money. (2) Interest in further knowledge about money. (3) A record on one week's spending. The results showed that Indian students and white students demonstrated similarities in their attitudes about working for money and there was no significant differences between the two cultures in their desire for further knowledge on the subject of money management. In a record of one week's expenditure, Indian students spent more per week than white students.

Awareness of money management was further expressed from the mean value obtained from weighted scores of eight attitudinal universes which included, dependence on peers, independence from parents, importance of financial planning for those who plan and keep records and for those who do not, interest in money management and in saving. The items in these eight universes were also correlated with intelligence quotients, race, sex, age, and father's occupation.

The weighted scores of these universes resulted in low scores by all students and showed little difference between white and Indian students. Positive correlations occurred only between race and independence of parents and interest in money management.

A questionnaire directed to parents validated replies on the student instrument. Results verified the fact that students showed more dependence on their parents than their peers. Permission from parents was obtained for the spending of both large and small sums of money. Indian students showed more agreement with white students and white parents than with their own parents in considering those items which should be paid for out of an allowance and

This is an abstract presented by Miss Downs for her doctoral thesis at Cornell University in 1965.

those for which parents should be responsible.

A comparison of results obtained for Indian students in integrated schools and non-integrated schools as to their attitude toward working for money and their further interest in money showed little or no difference. Both expressed a high desire to help parents pay their expenses and both showed similar attitudes toward working for money and toward interest in further knowledge about money.

The findings indicated that Indian students and white students demonstrated similar attitudes toward their awareness of money management but white students scored higher on those attitudes which illustrated understanding of the concept of saving.

All students demonstrated a lesser awareness of money management concepts than would be helpful to meet the needs of our present society. It is believed that consideration should be given by curriculum planners for more meaningful courses on the subject of money management.

From the Editor's Desk

If the enthusiasm and interest shown at the first meeting of our new Editorial Board is any indication of things to come, then the successful future of our Journal is assured.

In order for our Journal to be truly representative of the whole professional field of home economics, we need the active support of all of you in submitting articles and other pertinent material. Hopefully, the articles would cover many fields, such as nutrition, research in food, noted accomplishments of women in home economics and other fields, symposium talks and discussions, teaching aids, reports of special C.H.E.A. committee projects, doctoral theses, realistic applications of research, and consumer guidelines. The authors of such articles, of course, would not necessarily always be members of C.H.E.A. In addition, we would like to publish happenings concerning our members, such as new appointments, awards or other special honors, and travel or assignments in connection with home economics projects. Let's be proud of the achievements of our members and others in allied fields by putting them on record in the Journal to make it an outstandingly interesting and helpful professional magazine.

To familiarize you with our Editorial Board, here is a mini-sketch of some of its members.

Marjorie Elwood, *Editor*—graduate U. of T., B.A. (H.Ec.). Experience includes high school teaching; Manager Dominion Bank lunch rooms; Georgian Room, T. Eaton Co.; Food Editor, Star Weekly; now freelance. Association experience — President T.H.E.A., 1960; member C.D.A.

Carol Taylor, *Associate Editor*—graduate of McGill, B.Sc. (H.Ec.). Experience includes high school teaching; technical assistant in Textile Fibre Division, Du Pont, Kingston, Chatelaine Seal of Approval manager; now lecturer at Ryerson Institute. Association experience—Past Chairman H.E.I.B.'s of C.H.E.A.: Assistant Editor of C.H.E.A. Cookbook; T.H.E.A. Board of Directors and now convention chairman of the joint C.H.E.A. and C.D.A. 1970 convention at The Inn on the Park, Toronto.

Margaret Pope, *Associate Editor*—graduate U. of T. Honors B.A. (H.Ec.) and M.A. (Nutrition) U. of T. Experience includes Laboratory Supervisor Merck Chemicals, Montreal; Panelist CBC "Matinee Quiz"; Broadcaster CBC "For Consumers"; joined Food and Drug Directorate in 1966 and opened their consumer information office in Toronto in January of this year. Association experience—Vice-Chairman Toronto Nutrition Committee; director T.H.E.A.; Vice-Chairman H.E.I.B.'s of C.H.E.A.; active member of C.A.C. since 1954.

(*Continued on page* 110)

Happenings! . . .

Food Information Specialist

Recently, Bonnie Cornell of Toronto joined the specialists' ranks by becoming assistant to Ruth Moyle, Food Information Specialist with the Ontario Food Council. This is a division of the Ontario Department of Agriculture and Food. Its chairman, Doug Williams, commented that Bonnie Cornell's appointment was in line with the extra emphasis being placed by the Council on consumer interests. She has not only her B.H.Sc. from the University of Toronto but also her B.A. in Journalism from Carleton University (a graduate course). Dietetic internship at Sunnybrook and the Toronto General Hospital, plus retail selling in London, England, have broadened her horizons considerably. Both C.H.E.A. and A.H.E.A. are proud to claim her as one of their members.

Many Changes in Manitoba

Miss Judy Norton has succeeded Mrs. Doreen Paterson as Home Service Director for Greater Winnipeg Gas Company.

Mrs. Margaret Szeker has been appointed Consumer Information Specialist, Information Division, Manitoba Department of Agriculture. Margaret was formerly Home Service Supervisor for Manitoba Hydro. New in that position is Miss Margaret Chambers.

Miss Gail Denbow is Manitoba's new Chief, Home Economics Division, Extension Service, Manitoba Department of Agriculture. Miss Margaret Hawkins, former Clothing Specialist with the Division, has been made Assistant Chief.

Miss Mildred Socher follows Mrs. Barbara Laham as Home Service Director at Winnipeg's City Hydro.

Mrs. Marie Slusar resigned October 31 as Consumer Consultant, Department of Fisheries, Government of Canada, in order to devote full time to her Master's degree program of studies.

Honors:

Mrs. Glenora Pearce Slimmon was re-elected President of the Consumers' Association of Canada at its 1967 annual meeting.

Miss Gwen Leslie was elected to a 3-year term on the Board of Governors, University of Manitoba, one of three alumni members on the Board.

Recruitment

The Toronto Home Economics Association is sending a copy of this December issue of the Journal to 145 of their members. These are home economists who do not belong to C.H.E.A. but who, hopefully, will become better acquainted with our Association through the Journal and will consider membership in it a must.

If other Home Economics Associations across the country would adopt this same idea our C.H.E.A. membership would really soar. Be sure to let Lillian Gush, the Journal's business manager, know at least a month in advance of publication, how many extra copies of the Journal you would need for such a project.

Roving Gourmet

"Why don't you go to Canada House in India and study with our chef there?" This was what Mr. Michener, the Governor-General of Canada, suggested when he and Mrs. Michener were discussing with Yvonne Brand her search for gourmet foods around the world. Yvonne Brand is a teacher of home economics in Parkdale Public School, Toronto. She is a visionary, very creative in her field and not content to teach only by rule and rote. So, having a year's leave of absence from the Board of Education, she set out in October to study first hand the almost forgotten gourmet foods of such places as Casablanca, Morocco, and Nairobi, Kenya, where she will visit Mr. and Mrs. Charles Mustard, Canadian adviser in Education there. After that, her destination is New Delhi, followed by Thailand, Singapore, Hong Kong (questionable), Japan, Hawaii and Brazil for the colorful Mardi Gras. Good gourmet researching to you, Yvonne!

Carbohydrate Symposium

"Carbohydrates and Their Roles" is the subject of the 5th Symposium on Foods to be held at Oregon State University July 23, 24, and 25, 1968.

Topics to be discussed by distinguished scientists from around the world include: physical and chemical structure of carbohydrates, advances in analytical methodology, reactions and interactions of carbohydrates, carbohydrates in nutrition and disease, and the role of carbohydrates in the food industry.

The symposium is sponsored by the Department of Food Science and Technology at Oregon State University with the support of the National Institutes of Health to provide an atmosphere for scholarly and coherent treatment of the forefront of knowledge on selected topics of current or potential interest to man's food supply. Subjects of previous symposia on foods were "Food Enzymes", "Lipids and Their Oxidation", "Proteins and Their Reactions", and "The Chemistry and Physiology of Flavor".

The symposium will be held in the Food Technology Building on the Oregon State University campus. Registration, housing information and program details are available from Dr. R. F. Cain, Department of Food Science and Technology, Oregon State University, Corvallis, Oregon 97331.

Workshop at Laurentian University

In August a workshop was held at Laurentian University (Sudbury) for home economics teachers. The week of lectures and panels was under the direction of three Ontario home economics inspectors—Anne Lawson, Sheila Ryan and Ellen Dow.

A First

Anne Lawson, a former home economics inspector, was recently made assistant superintendent of curriculum, Ontario Department of Education. This is the first time a home economist has been appointed to work on the curriculum.

From Seal of Approval to Lecturer

Carol Taylor, associate editor of the Journal, was appointed this summer to the Ryerson School of Technology as lecturer in Family Education, Housing, Interior Decorating and Home Management. Prior to this, she had been in charge of all Seal of Approval work at Chatelaine magazine.

FROM THE EDITOR'S DESK

(*Continued from page* 108)

THYPHENA FLOOD, *Advertising Manager* — graduate McGill B.Sc. (H.Ec.) Internship R.P.D. and Montreal General Hospital; Montreal Children's Hospital as Administrative Dietitian; Marketing Department, Campbell Soup Co. Ltd.; now freelance. Association experience—Co-Chairman T.H.E.A. New Products Dinner; member C.D.A. and O.D.A.

LILLIAN GUSH, *Business Manager*—graduate Acadia B.Sc. (H.Ec.). Experience includes T. Eaton Co. home furnishings and interior decorating department; General Foods, becoming supervisor of their test kitchen in 1964. Association experience — treasurer and secretary T.H.E.A.; past secretary H.E.I.B.; Member C.D.A. and O.D.A.

The sketches of the other members of the Editorial Board will be in the April issue of the Journal.

Lecturer *or* Assistant Professor in Home Economics

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Miss Phyllis McDermott, Home Economics, University of Windsor, Windsor, Ontario.

Abstracts of Current Literature

Submitted by MACDONALD COLLEGE OF MCGILL UNIVERSITY, *School of Household Science, St. Anne de Bellevue, Que.*

Charting right path through detergent maze

(NO EDITOR) *1967*

Canadian Hotel and Restaurant 45, 8; 38.

The variety, information and cost of detergents available for use in quantity food operations presents a problem that this article goes a long way toward helping to solve. There is a need for this type of accurate and meaningful information since it provides a sound basis for making decisions re the selection between several choices of detergent for a specific cleaning job. One of the first points made is that the prevalent habit of buying by price alone is a major contributing factor to the excess of compounds now on the market. Suppliers produce each of several formula in varying strengths and prices to remain competitive.

It is not feasible to expect to get an "all purpose" detergent formulated to effectively and adequately clean every surface found in the average kitchen. To contend with the variables, which range from the type of surface materials to the type of soil on the surface, requires special combinations of each of the many chemicals which make up a detergent formula.

When formulating a detergent the supplier must weigh a number of different influencing factors such as the type of surface active agents needed for melting out and penetration of fats and oils; the alkalis required to break down protein soils, the acid needed to remove insoluble materials, the inhibitors needed to protect special surfaces, etc. The components are balanced to produce a detergent that is able to do a specific job well, it may have a neutral, acid or alkali pH, it may or may not have buffering agents, or protective inhibitors, it may be a straight soil remover or it may combine soil removal and bacterial destruction activity to clean and sanitize a surface.

The user needs to know what types of surfaces are to be cleaned and what type of soil is present, then to rely on the supplier to recommend a suitable detergent and its manner of use, i.e., the concentration, water temperatures, exposure time and other specific details. This will result in a more satisfactory final result—clean soil-free surfaces, no waste of labor in redoing cleaning jobs and use of the correct amounts of detergent to control costs.

Generational changes in Jewish family structure.

C. GOLDSCHEIDER *and* S. GOLDSTEIN. *1967.*

Journal of Marriage and The Family, 29: 267.

The patterns of change in the Jewish family structure in America have been examined. Information was collected in four aspects of the Jewish family which include: (1) marital status, categorized into single, married, widowed, or divorced and separated; (2) number of times married; (3) household which included nuclear, extended and one person units; and (4) age at first marriage.

It was concluded that Jewish families tended to be more stable than other families in the United States since they had lower rates of divorce and separation. However increases in the proportion divorced or separated, in the number of remarriages, and in the proportion living in nuclear households were observed for more recent generations. There were more widowed and divorced females which may be a result of the greater longevity of women, the slightly higher rates of remarriages among males, and the older ages at which males marry.

Suburban residents, Reform Jews and those with higher levels of education in general had higher rates of divorce, a larger proportion married more than once and a higher proportion living in nuclear households, that is households containing husband and wife with or without children, or head only with children.

Jews tend to marry at later ages than non-Jews although they are tending to emulate the American pattern and marry at younger ages. In general Jews who had the most education married three years later than Jews with only an elementary school education.

The cultural assimilation of the Jews leads to the discarding of traditional values. The value of family stability characterizing the Jewish population has been slowly changing as shown in the increase in divorces and remarriages among the third generation and the decrease in the number of households which include relatives.

Part III—Detergency experiments with particulate carbon soils.

GRINDSTAFF, T. H., H. T. PATTERSON *and* H. R. BILLICA.

Textile Research Journal 37: 564-573, 1967.

Although little particulate carbon is found on soiled garments in America, nevertheless, radiotagged carbon was used in studying the desorbing power of nonionic and ionic surfactant solutions. Carbon$_m$ was removed from both films and fabrics of nylon, polyethylene terephthalate and cellulose equally well with anionic and nonionic surfactant solutions. Carbon particles probably serve as nucleation points for bubble formation from dissolved gases as these bubbles then pull the particles off the surface. Bundles of cotton fibers, as seen under the electron microscope, trapped particles making cotton more difficult to clean than fibers made from polyester and nylon yarns. Addition of hypochlorite bleach to anionic surfactant solutions increased their ability to remove hydrophobic carbon, probably by converting it to hydrophilic carbon, which is easier to remove.

Are regional cultural differences diminishing?

N. D. GLENN *and* J. L. SIMMONS. *1967. The Public Opinion Quarterly 31: 176.*

This article reports on a study made in the U.S.A. which was found to raise doubts concerning the assumption that the United States is losing its geographical cultural differences and becoming a homogeneous society. This assumption is commonly believed and is thought due, to a high degree, to mass communication and high mobility of the population.

The authors used data from specific research centers and the Gallup Organization. Forty-four national polls were used—on religion, morals, racial and ethnic minorities, international relations, work, political issues and other values and beliefs. The respondents to each survey were divided into two broad age levels 21 to 39 years and 40 years and up. The regional breakdown was into the four major census areas — Northern, North Central, South and West. Only the responses of whites were analyzed. The authors give details of the above and also of the manner in which the responses were analyzed to make certain the findings were not biased.

The data failed to support the belief that regional differences have declined appreciably; instead they suggest that many kinds of differences have increased. Placed in doubt by this study is the assertion that mass media of communication tend to diminish regional differences. The media often reinforce pre-existing values, but apparently they rarely lead to conversions. By having differing effects in different localities, the authors conclude that mass communication may increase rather than decrease certain kinds of geographic cultural variation.

Studies of soiling and detergency. Part I—Observations of naturally soiled textile fibers.

TOMLINSON FORT, JR., H. R. BILLICA, *and* C. K. SLOAN.

Textile Research Journal 36: 7-12. 1966.

Filaments were taken from fabrics of soiled cotton and Dacron polyester fibers to study the basic principles involved in detergency. Evidence was obtained, through the use of an electron microscope for the binding of particulate soil to fiber surfaces with a fatty soil adhesive.

Part II—Detergency experiments with model fatty soils.

TOMLINSON FORT, JR., H. R. BILLICA, *and* T. H. GRINDSTAFF.

Textile Research Journal 36: 99-112, 1966.

High temperatures increased the rate of detergency of fatty acid, fatty alcohol, hydrocarbon and triglyceride from cellulose, nylon, polyethylene, terephthalate and tetrafluoroethylenehexafluoropropylene copolymer surfaces. Typical cationic, anionic and nonionic detergents were tested on sorbed radioactive materials using a Geiger counter having the polymers in film form as end windows. Of the three detergents tested, the nonionic was by far the most effective soil remover from the hydrophobic polymer substrates. On cellulose the anionic was more effective. Optimum conditions for soil removal from cellulose were not the same as from the other polymers. However detergents and wash temperatures for both natural and synthetic polymer surfaces were found which should do much to reduce use discoloration of all fabrics sent to home and commercial laundries.

Development of edible amylaceous coating for foods.

L. JOKAY, C. E. NELSON *and* E. L. POWELL. *1967.*

Food Technology, 21: 12.

The edible amylaceous coating recently developed offers distinct advantages in a variety of applications.

Sticky candy can be given a non-tacky surface while food items that normally transfer fat from their surface will be effectively rendered "non-greasy" by a film of this coating. It is found that the coating aids in control of color changes due to oxidation. The coating could serve also as a carrier of added flavor, color, vitamins, mineral salts, non-nutritive sweeteners, antioxidants or preservatives.

Tests made on stored coated samples of almond nut meats indicated considerable protection against oxidative rancidity development. Coating of dried beans made them less vulnerable to splitting and loss of hulls. In the case of delicate items such as shell eggs increased strength was given by this coating.

The basic ingredient of the coating is a hydroxypropl derivative of a 70% amylase starch. The product is not only harmless, but is a food in itself. In some cases the hydroxypropl derivative is compounded with other ingredients in order to improve its coating pliability, speed of setting and to control the rate of resolubility.

The process of applying the coating to the food has in some instances caused problems. For laboratory tests the coating was applied using a brush, a spray or by dipping. In these methods it was not possible to support the food piece for drying without marring the surface. The "planar" spray machine presented the same problem, and the "waterfall" type of equipment used in chocolate enrobing coated only the front and top surface of a cubical shaped item. The fluidized bed coater in which the coating solution is applied by spraying the air-suspended tumbling items proved satisfactory for relatively small, reasonably strong and fairly spherical shaped items.

In these procedures the coating is in liquid form. Recently the coating has been applied as a powder with success.

In this method the food item was moistened by a whiff of steam, placed in the refrigerator and later exposed to the warm air of the room which caused it to "sweat". The powdered coating was then dusted on as the pieces tumbled about. The coated pieces were then removed to a wire rack where they received a second steaming to rehydrate the coating to a continuous thin film.

Bicycling Anyone?—Do some physical work to balance the mental work — leg muscles help the heart muscles to pump more blood to the brain.

Attention C.H.E.A. MEMBERS . . .

The C.H.E.A. Nominating Committee invites nominations for the following, for the 1968 to 1970 Executive:

PRESIDENT-ELECT (Nova Scotia, Halifax area)

VICE-PRESIDENT (Ontario) — SECRETARY (Ontario)

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Please submit nominations signed by 5 members of C.H.E.A. and accompanied by a letter of acceptance from the nominee by January 26, 1968 to

Miss Marion Whyte, Nominating Chairman, C.H.E.A.
322 Riverside Drive, Toronto 3, Ontario

BOOK REVIEWS

How To Sew Leather, Suede and Fur—Margaret B. Krohn and Phyllis W. Schwebke, 1966 — Bruce Publishing Co., 400 N. Broadway, Milwaukee, Wis. 53201. $5.00.

With the wide use of leather, suede and fur in the fashions of today, this book will serve as an excellent reference for teachers and students. The techniques involved in producing apparel or accessories with hides and skins are an interesting contrast to the construction procedures used with fabrics.

The section on leather and suede gives a brief history of their use, methods of tanning and recommendations as to the type, gauge and size of hides for a wide variety of articles. One chapter deals with the equipment supplies which are required when working in this media. Instructions for producing a coat or jacket, skirt, shorts and slacks are outlined step by step and clearly illustrated. General care and cleaning procedures for leather are reviewed.

Furs are handled separately with a similar list of topics discussed. The step-by-step procedure for jackets, coats, stoles and many special fur accessories are clearly outlined and illustrated. One chapter in this section is called "What About Mink?," and offers a challenge to any who are willing to try using this luxury fur.—Elizabeth Shannon, Winnipeg.

Teen Guide to Homemaking — Marion S. Barclay and Frances Champion, 1967. Webster Division McGraw Hill Book Co. $7.15. Recommended for Junior High School.

Teen Guide to Homemaking was first published in 1961. The second edition (1967) has the same general format but with many new photographs, charts and an updated text in line with recent advances in the field of home economics. Generalizations have been added at the beginning of each chapter. There is a new section on housing.

Intended as a comprehensive junior high text, all areas of home living are included: personal, social and family relations; child growth and development; home care and improvement; home care of the sick; the handling of money; the management of time and of self; the selection of consumer goods; general principles in clothing construction; food preparation principles and a separate recipe section.

The format of the book is unique. The basic text material is carried in two columns on each page with additional learning experiences, short evaluation devices and bulletin board ideas in an adjacent marginal column. While each chapter is complete in itself, adequate cross references interrelate the whole field of study.

In order to cover the breadth of material, the authors have neglected depth of detail. However, as an all-inclusive family-centered basic text, this book can be highly recommended.—Mrs. Johanna G. Wilson, Vincent Massey Collegiate, Winnipeg.

A Guide to Pre-Confederation Furniture of English Canada—Don Stewart—Longmans Canada Ltd., Don Mills, Ont.—Oct. 20, 1967. $12.00.

In the words of the author, Mr. Don Stewart: "Once the eye is trained, and the heart engaged, the search is fascinating and enormously rewarding."

Evidence of the trained eye is on every page of this delightful book, which has an appeal for all who have even a slight interest in Canadiana.

It is profusely illustrated with two hundred photographs showing an impressive collection of rare examples of the work of Canadian craftsmen of the Pre-Confederation era. There are four full-page color plates of rooms furnished according to the period.

The author shows a sensitive appreciation of the skill and artistry evident in every piece of furniture, ranging from early Loyalist "primitive" to the finely detailed work of the cabinet makers among the early settlers. They are sturdily constructed from a wide variety of native pine and hardwoods, and show evidence of constant use for specific purposes.

(*Continued on page* 119)

A Sincere Welcome . . .

To these new members who joined C.H.E.A. from August 1 to October 31, 1967:

British Columbia

Reid, Miss Sandra M., Victoria — Home Economist, Markets and Statistics Branch, B.C. Department of Agriculture.

Rutledge, Mrs. Mary L., Port Edward — Teacher, Booth Memorial Jr. Secondary School, Prince Rupert.

Skelton, Miss Carol A., Vancouver — Graduate student, U.B.C.

Alberta

Bannerman, Mrs. Norma, Calgary — Homemaker, Part-time lecturer — Adult Education.

Bowes, Miss Carol, Edmonton — Teacher, Separate School System.

Dalhman, Mrs. Marilyn, Calgary — Teacher.

Fradsham, Miss Jean M., Calgary — Dietetic Intern, Calgary General Hospital.

Konrad, Miss Sandra, Vauxhall.

Shaw, Mrs. Billye L., Edmonton — Home Service Director, City Hall, City of Edmonton.

Stevenson, Mrs. Lorraine, Calgary — Homemaker.

Wilcock, Mrs. Edith L., Calgary — Homemaker.

Wirick, Miss Susan M., Hanna — District Home Economist, Alberta Department of Agriculture.

Saskatchewan

Bramwell, Miss Glenis, Lloydminster — Teacher.

Hasell, Mrs. Doris E., Saskatoon — Lecturer, Housing and Design, College of Home Economics, University of Saskatchewan.

Newell, Miss Margaret E., Lashburn — Student.

Reynolds, Mrs. Mildred A., Saskatoon — Teacher, Pleasant Hill Public School.

Manitoba

Berry, Miss Ruth E., Winnipeg — Lecturer, School of Home Economics, University of Manitoba.

Hastie, Mr. Ronald T., Winnipeg — Assistant Professor, School of Home Economics, University of Manitoba.

Holtmann, Miss Trudy, Virden — Extension Home Economist, Manitoba Department of Agriculture.

Weber, Miss Lorna, Winnipeg — Summer work, Canada Packers.

Ontario

Copeland, Miss Sharon, Hamilton — County Home Economist, Ontario Department Agriculture and Food.

Goodwin, Miss Mary T., Brantford — Teacher, Department of National Defence (overseas).

Hamilton, Mrs. Patricia, Guelph — Homemaker.

Munroe, Miss Janet, Ottawa — Home Economist, Consumer Section, Canada Department of Agriculture.

Murphy, Miss Diane, Peterborough — Teacher, T. A. Stewart Secondary School.

Schmitt, Mrs. Judith, Orangeville — Home Economist, Ontario Department of Agriculture and Food.

Smith, Miss Patricia, Oakville — Student O.C.E.

Tanner, Miss Jeannie, Toronto — Student O.C.E.

Quebec

Larue, Miss Louise, Montreal — Dietetic Intern, Royal Victoria Hospital.

New Brunswick

Aronson, Miss Diana M., Fredericton — 4-H Supervisor, N.B. Department of Agriculture.

Nova Scotia

Cochran, Mrs. Bruce, Halifax — Teacher, Queen Elizabeth High School.

VITAMIN AND FOOD TOXICITY

(*Continued from page* 94)

(ii) there is a need for additional sources of the nutrient in question, (iii) that the proposed food would be a suitable, and if possible logical, vehicle for the nutrient (that, in the vehicle proposed, it would reach the segment of the population needing the nutrient), and (iv) that the nutrient is stable in that food.

For certain of the nutrients we are aware of detrimental effects of excessive intakes. Vitamins A and D are known to be toxic. Folic acid in large amounts, while not toxic, can mask the symptoms of pernicious anemia. Fluorine in excessive quantities is toxic; iron is probably toxic as are many of the trace minerals in excessive quantities. In the case of certain amino acids, animal studies have revealed detrimental effects of imbalances; for the majority, no such evidence exists at present. While it has been generally assumed that the water soluble vitamins are non-toxic, outbreaks of "food poisoning" have been attributed to excessive levels of the sodium salt of nicotinic acid used as a color stabilizer in meats.[11] Recently, Cochrane[12] has suggested that excessive intake of ascorbic acid during pregnancy may induce a vitamin C dependency syndrome in the offspring, and a Denver group[13] have produced evidence of a transient vitamin B_6 dependency induced by very high intake of pyridoxine.

Thus it is essential to ensure that the public obtain a nutritionally adequate intake of vitamins and minerals but to avoid unnecessarily high intakes.

This problem has recently been emphasized in connection with vitamin D. As we are all aware, not too many years ago, infantile rickets was a very important pediatric problem; rachitic children were seen with great frequency in pediatric wards. This was attributable to the absence of rich sources of the vitamin in the Canadian diet coupled with the low exposure to sunlight in the winter months. In spite of the availability of cod liver oil and other vitamin D-rich pharmaceuticals, the situation persisted. As a Public Health measure, vitamin D was added to canned milk, the major form of milk used in infant feeding. The ensuing decrease in rickets was dramatic proof of the effectiveness of this measure. Nevertheless a residuum of rickets cases existed; further it was recognized that the older children did not usually drink canned milk but still needed vitamin D. It was apparently logical then to add the vitamin to other foods — first to cereals and then other foods used by older children. It should be noted that this was done in such a manner that each source supplied at least 400 I.U. per day, the recommended intake, and often 800 I.U. on the assumption that if 400 I.U. is good, 800 I.U. is better. At the same time pharmaceutical preparations were increasing the vitamin D content, perhaps in competition with each other, to levels of 1,500 I.U./dose and higher in some cases.

This is the situation that existed in 1955 when reports of a new clinical syndrome, idiopathic hypercalcemia, began to appear in Britain. Epidemiological evidence suggested that this might be a symptom of vitamin D toxicity or more likely of hypersensitivity of some infants to vitamin D.[14] Although the incidence was low (Fraser[15] has estimated it to be less than that of phenylketonuria), it was felt that it was preventable by a more logical approach to vitamin D fortification; at that time intakes of 3,000 I.U./day were not unusual in Britain.

In response to pressure from the scientific community, and with some misgivings, the Canadian Food and Drug Directorate revised its regulations to prohibit the addition of vitamin D to any foods except milk (canned, dried or fluid) and margarine. The level of vitamin D was restricted to 400 I.U. per 30 ounces, a "reasonable daily intake." This policy would avoid the possibility of a child ingesting multiple sources. When an infant was transferred from canned milk to fluid milk, the intake of vitamin D would be maintained. The level of intake (as long as the child drank reasonable quantities of milk) would be adequate and would not reach what might be toxic levels. While adults would also ingest vitamin D in milk, there was no evidence that this would be detrimental at the proposed level of addition.

Most of us were pleased with this action. It would simplify education programs

for now milk (any type of milk) could be recommended as the source of both calcium and the vitamin D required to utilize the calcium; no longer would there be any need to recommend vitamin D pills or drops, except perhaps during the first months of life before consumption rose to about 30 ounces/day.

Today many of us are rather worried. Vitamin D has been removed from the miscellany of foods that once contained it, but the dairies, for the most part, have not added it to their products and rickets is still seen with alarming frequency in the pediatric hospitals. Why have the dairies not acted? It is probably due not to cost factors (if the entire milk stream is included, the cost is negligible). It is more likely a fear of public reaction against what they were told, for several years, was a bad thing.

We in Public Health, must stand behind the Food and Drug action that we urged be taken. We must actively promote the addition of vitamin D to fluid milk to accomplish the objectives we set. Only then can we design sensible educational programs that are understandable to the public.

Present Regulations on Nutritional Additives

The history of vitamin D has been a classic example of the problems that face those charged with the control of food safety. It is a problem that the U.S. regulatory body is now battling in connection with proposed regulations. However, the Canadian Food and Drug Directorate is to be congratulated in taking the forward step of setting down regulations governing the addition of a number of nutrients to foods, thus clearing up a situation that was rapidly becoming chaotic to the Nutrition Educator. As well as defining the conditions under which a nutrient could be added, as discussed earlier, and the levels at which it could be added, these new regulations also specified the classes of foods to which it could be added. Fortunately these regulations were promulgated before the situation was out of hand and were accepted by Canadian industry without too serious objection.

We must remain on guard against unwarranted excesses in the future. As an example of a potential problem, I will cite the case of iron. There are many who feel that the intakes of iron recommended in the Canadian Dietary Standard or even in the U.S. Recommended Allowances are too low, at least for some individuals in the public. They would appreciably increase these figures; indeed the intakes that might be recommended would be well in excess of those possible from the ingestion of currently available foods in the customary pattern. We would then be in a position of recommending routine iron supplements for the majority of the population or fortification of foods to permit the highest requirements to be met from an ordinary diet. However, these levels might be sufficiently high to raise the specter of iron toxicity in other sections of the population, particularly if a number of foods were enriched on the basis of each food meeting a large part of the total requirement, as was the case in vitamin D. The need for caution in setting recommended intakes and in designing programs to ensure these intakes is obvious.

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THE PRODUCT PATROL

(*Continued from page* 100)

more than 10 mgs. of sodium in an average serving or 20 mgs. in a reasonable daily intake.

Proteins

In order to help the FDD judge advertising claims and so indirectly to guide the consumer in evaluating the protein value of food products, the FDD established criteria for describing the protein value of foods. Food and Drug terms the standard procedure used for determining the nutritive value of protein, the "Official Method" and our regulations pertaining to protein are, of course, based on this procedure. Our protein efficiency criteria are based on rat feeding experiments and rat growth. If anyone is interested in the details of the method, they are described in a paper entitled "Criteria for Describing the Protein Value of Foods" and this paper is available for the asking, as well as a table listing the protein efficiency ratio of a number of common foods measured by the FDD methods.

In assessing protein claims, our inspectors take three factors into consideration. These are (1) the amount of the food in an R.D.I. (which is generally one serving a day) and (2) the per cent of protein in a food, and (3) the nutritional value of that protein as determined by the FDD official method. Depending on how it measures up to our standard, then a manufacturer is allowed to describe a protein food as either "excellent" or "good." A gold star food, i.e., one which may be recommended as an "excellent" source of protein, must have a protein rating not less than 40. A food with a protein rating not less than 20, as determined by the FDD official method, may be described as "good." We do not consider anything with a protein rating less than 20 as making any significant contribution and feel it would be misleading to allow a manufacturer to emphasize the protein in such less adequate foods.

However, we have made provision for manufacturers of special breakfast cereals to claim this: "An ounce of (naming the breakfast cereal — such as Kellogg's K) with four ounces of milk is a good source of protein" if, in fact, the combination of the breakfast cereal and a half cup of milk has a protein rating of 20. And a protein cereal plus four ounces of milk just makes the grade!

There is also a provision for specially prepared infant food which may be dubbed as "an excellent source of protein" (or, it could be stated the infant food contains "high quality protein") in an amount considered to be an R.D.I. for an infant with a protein rating not less than 20. This seemingly lower protein standard is because it is based on the small amount an infant consumes.

Claims Pertaining to Fatty Acid Content of Food

Another example of the food manufacturer getting on the bandwagon is the increase in the number of margarines and salad oils made with polyunsaturated fat. At present, Food and Drug does not consider these products to be "foods for special dietary use." Unfortunately though, the public seems to feel differently; that there might be some sort of health benefit. This impression does concern us.

The FDD has no desire to be involved in the controversy over the value of lowering blood cholesterol levels by increasing the unsaturated fat in diets and heart disease. On the other hand, we are extremely concerned about the impression that the advertising of these foods makes on the public. We are interested because under our regulations it is taboo for advertising copy to suggest that a food product will be a cure or a treatment for a number of serious medical conditions. These include heart disease, diabetes and high blood pressure. There is a good reason for prohibiting this sort of advertising; we do not want to encourage self-diagnosis and/or self-treatment. On the other hand, it's hard to combat the numerous articles published in the popular press these days which suggest that the use of unsaturated fats is beneficial to heart patients. Besides, there are those doctors who are concerned about the merits of diets low in saturated fat and who advise their patients to use the special margarines low in saturated fat.

As you well know, chaos reigns among the corn oil margarines. In order to help doctors and patients choose a margarine

which is actually high in polyunsaturated fat, the FDD proposed some new regulations last February. These proposed regulations would allow the manufacturer to give consumers a little guidance and make a statement like this on the label of a margarine meeting our requirements: "for persons who are attempting to regulate the type of fat in their diet." These proposed regulations also set limits for the amount of polyunsaturated fat necessary in a margarine which carries this claim, so that any one choosing it will know it is high in polyunsaturates. Although it's possible these proposals will be modified before they become law, the regulations hopefully will help clarify the picture for those who are trying to avoid saturated fats and oils.

Foods to Which Vitamins, Minerals and Amino Acids May Be Added

A touchy question these days concerns the addition of vitamins, minerals and amino acids to foods. We have in Food and Drug a Nutrition Division which in consultation with the Canadian Council of Nutrition, advises on the policy regarding the addition of nutrients to foods. Before FDD makes any provision in our regulations for the addition of nutrients, we must be assured that the supplement is one necessary for the sound nutrition of the general public and we now look to see that the particular food is a suitable one for that nutrient. You are all familiar with the health benefits from the addition of iodine to salt, vitamin C to apple juice and vitamin D to evaporated milk. There are many facets to our programs of enrichment and we are cautious about going overboard and boosting too many foods. Not so long ago one could find beverage mixes (powders and syrups), apple juice and ready-to-eat cereals all enriched with vitamin D. As the nutrition picture changes, so do our regulations and they have been amended several times the past few years. There has been quite a bit of concern recently over excessive or unnecessarily high intakes of some vitamins, D in particular, a vitamin which is potentially harmful in large doses.

Since 1965 our regulations restrict the addition of vitamin D to foods which are logical carriers, such as canned, dried or fluid milk, infant formula and margarine, at the same time limits of the amount allowed have been lowered to keep in step with the recommended daily intake of 400 I.U.

In 1966, FDD lowered the limits for vitamin D added to food from a 400 to 800 range to between 300 to 400 I.U. in a reasonable daily intake. You will recognize this 400 I.U. level as that suggested in Canadian Food Guide.

Right now newer revisions are in the wind. Regulations governing the addition of vitamins proposed last spring will slightly reduce the maximum amounts of some vitamins. The levels for the B vitamins in particular have been slightly lowered to about one-third the daily requirement as the feeling is that it does not seem reasonable to permit more than that in any single food. There is a proposed table that sets out 17 categories and specifies which vitamin, mineral or amino acid may be added to which foods. The exact limits are given in accompanying regulations and I would be pleased to send details to anyone who is interested.

In this business of protecting the consumer, it's not merely a matter of making provision in our food laws for better protective foods, such as the addition of vitamin D to fluid milk, or even in encouraging the milk industry to follow through with this worthwhile public health measure. Ultimately the consumer benefits when she knows what is being done on her behalf and, as I see it, professional people like yourselves have a great responsibility when opportunity comes your way to share your know-how with her.

BOOK REVIEWS

(*Continued from page* 114)

The text provides a detailed commentary on the origin and date of each piece illustrated, with charming comments on its discovery and present whereabouts.

This book provides a fascinating guide to both novice and expert, as well as a nostalgic journey into a past era among our hardy pioneers. Of interest to collectors, home owners, Canadian Historical. — Mrs. Willene Horsburgh, Montreal.

Singer Company Pioneers Bursary Program with C.H.E.A.

The Singer Company of Canada Ltd. will institute a $3,000 Bursary Program for Clothing and Textiles beginning in the 1967-68 university year.

The C.H.E.A. Board of Directors at their June meeting approved the proposal that the Awards Committee of the C.H.E.A. be made available to industry for selecting winners of industry scholarships, bursaries and awards. The Singer Bursaries will be the first industry awards to be administrated by the C.H.E.A. group. It is hoped that when the selection procedure is in full operation additional bursary awards will come from industry.

Six bursaries of $500 each will be open for competition to clothing and textiles students entering their final degree year. The final year may be the fourth year Bachelor degree course or the fifth year Honors course.

The bursaries will be awarded on the basis of academic standing and financial need but with strong emphasis on creative ability, leadership qualities, high standards of proficiency in clothing and textiles work and fashion awareness.

The C.H.E.A. Awards Committee, chaired by Mrs. Norah M. Holcomb, will make the final selections for the six bursaries. The first $500 bursaries will be awarded in September 1968.

Prior to the establishment of the annual bursaries, the Singer Company is awarding $300 bursaries to eight Canadian universities. Each university has agreed to select the recipient based on the criteria stated above.

The universities receiving bursaries this year are: University of Guelph (Macdonald Institute), University of Alberta, University of British Columbia, University of Manitoba, McGill University (Macdonald College), Marianopolis College, and Mount Allison University. A $300 donation was also made to the Hope Hunt Scholarship Fund at the University of Saskatchewan.

These $300 bursaries were presented in September 1967.

THE SAME SUBJECT MATTER

(*Continued from page* 96)

Since the understanding of this term is so vital to the classroom teacher in setting her goals, standards, and evaluative procedures, Miss Brush plans to lead her students to rigorously investigate other possible solutions.

She believes that Bloom's *Taxonomy* is a map (as does Miss Ascott) but only as an organization to help explore meaning. The map does not take the place of the actual journey. There must be an individual experience.

In such a realm as cognitive behavior, Miss Brush does not expect her students to find absolute answers, but she does know that when the students apply their problem solving, many facets of this area will be exposed.

The students have done this many times before. They start by delving into Bloom's critics, defining cognitive behavior from other viewpoints, and investigating Bloom's hypotheses about learning.

What Miss Brush is most interested in is not merely the tentative conclusions that the students will discover, but the effect the findings will have on each student's actual application of this information during their student teaching experience. Student teaching will give them an opportunity to observe, test, and re-evaluate their findings.

It is especially important that the students keep an open mind. Their experiences in the classroom will constantly lend insight into this matter. Sensitivity and a scientific approach to this problem is imperative. If the students can learn this *basic* problem solving approach to all problems in their teaching, Miss Brush will feel that she has been a successful teacher. She enthusiastically subscribes to Dewey's definition of philosophy: ". . . the theory of education as a deliberately conducted practice."

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